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Memorandum

January 4, 2022

TO: Joint Technology Committee Members

FROM: Luisa Altmann, Senior Research Analyst, 303-866-3518
Joint Technology Committee Staff

SUBJECT: JTC Staff Analysis of JBC-Referred FY 2022-23 Operating Budget Request
Colorado Department of Human Services
R-03 County Trails Refresh and Support

Summary of Request

The Colorado Department of Human Services (CDHS) is requesting \$1,776,267 General Fund and \$23,733 federal funds spending authority in FY 2022-23 and ongoing to create a separate line item in the Long Bill for county child welfare information technology needs, including computers for county caseworkers. The request also includes a correction in the Trails line item to reflect the actual federal match rate of 35 percent for the maintenance and operations of the Trails system.

Additional background on this request can be found in the Joint Budget Committee (JBC) Staff briefing document from December 8, 2021, and the department's JBC hearing on December 17, 2021, which are included as attachments.

Request Details

Trails federal drawdown rate adjustment. For FY 2021-22, CDHS was appropriated a total of \$7,589,619, including \$4,326,985 General Fund and \$3,262,634 federal funds spending authority, for the Colorado Trails line item. However, past appropriations have overestimated the available federal drawdown, including a FY 2019-20 decision item that incorrectly assumed a fund split of 45 percent General Fund and 55 percent federal funds; whereas the actual federal drawdown is limited to 35 percent for maintenance and operations of Trails. These overestimations have resulted in approximately \$500,000 annually that is appropriated but cannot be drawn down, limiting the actual resources available for Trails for FY 2021-22 to approximately \$7.1 million. This request proposes adjusting the Trails appropriation moving forward to reflect the correct federal drawdown rate.

Trails line item adjustments. A large portion of the current Trails line item is spent on costs not directly related to the maintenance and operations of the Trails system itself, including state-funded

computers distributed to county caseworkers, a portion of the state's CenturyLink contract, and HP support services. According to the department, only \$1.65 million of the Trails line item is currently available to be used for ongoing Trails maintenance. In an effort to increase transparency into how state funding on the Trails system is spent, the department proposes creating a new line item in the Long Bill for county IT support.

Increased support for county IT and Trails operations. Finally, CDHS is requesting to fund the new county IT support line item with \$1.8 million total funds, including \$1,776,267 General Fund and \$23,733 federal funds, while the Trails operating line item total of \$7,589,619 total funds would be adjusted to \$4,933,252 General Fund and \$2,656,367 federal funds to reflect the correct federal match rate. According to the department, the additional funding in the new Trails operating line item will allow the department to:

- assign seven individuals to a cross-functional team focused on the creation of new features and development fixes for items that cause high numbers of help desk tickets;
- build automated testing capacity with a team of five automated testers;
- add additional developers and business analysts to help process and address help desk tickets; and
- fund contract expertise in technical process, data warehouses, and system architecture to help automate the current Trails software development environment, which remains largely manual.

The itemized estimated expenditures for Trails for FY 2021-22, the proposed new line item components, and the FY 2022-23 requested amounts are shown in Table 1.

Table 1
FY 2021-22 Estimated Expenditures and FY 2022-23 Request for Trails

	FY 2021-22 estimated expenditure	FY 2022-23 Request
Proposed New County IT Support Line Item Components		
HP county computer leases	\$1,078,000	
IHFA CWEL Insight Delphix Engine for Oracle	\$164,837	
Insight HP Software – Carepack	\$136,368	
FY 2021-22 Estimated Total for Proposed New County IT Support Line Item	\$1,379,205	\$1,800,000
Proposed Trails Operating Line Item Components		
CenturyLink Infrastructure	\$3,117,296	
FY 2019-20 R13 Colorado Trails Maintenance	\$2,143,000	
FY 2020-21 R2 Family First Prevention and Services Act	\$250,000	
Project Manager	\$167,130	
Miscellaneous	\$24,905	
FY 2021-22 Estimated Total for Trails Operating Line Item	\$5,702,331	\$7,589,619
FY 2021-22 Estimated Total for Trails	\$7,081,536	\$9,532,056

Source: CDHS FY 2022-23 R-03 Operating Budget Request Document.

Program Information

Trails, the State's Comprehensive Child Welfare Information System, is used by over 5,400 individual users to track child abuse and neglect cases, as well as services to help families. System users include staff in the Division of Child Welfare, the Division of Youth Services, the Office of Early Childhood, the Administrative Review Division, the Office of Child Protection Ombudsman, contracted providers, 22 judicial districts, and 64 county departments of human and social services. Trails has been undergoing a modernization project, first started in FY 2015-16.

Options for Committee Action

The JTC has three options for committee action when it provides a technical review of an operating budget request to the JBC. The JTC can:

- recommend the request to the JBC for funding with no concerns;
- recommend the request to the JBC for funding with concerns; or
- not recommend the request for funding with concerns.

JOINT BUDGET COMMITTEE



STAFF BUDGET BRIEFING FY 2022-23

DEPARTMENT OF HUMAN SERVICES

(Division of Child Welfare and Division of Youth Services)

JBC WORKING DOCUMENT - SUBJECT TO CHANGE
STAFF RECOMMENDATION DOES NOT REPRESENT COMMITTEE DECISION

PREPARED BY:
EMILY HANSEN, JBC STAFF
DECEMBER 8, 2021

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ADDITIONAL RESOURCES

Brief summaries of all bills that passed during the 2020 and 2021 legislative sessions that had a fiscal impact on this department are available in Appendix A of the annual Appropriations Report:

https://leg.colorado.gov/sites/default/files/fy21-22apprept_0.pdf

The online version of the briefing document, which includes the Numbers Pages, may be found by searching the budget documents on the General Assembly's website by visiting leg.colorado.gov/content/budget/budget-documents. Once on the budget documents page, select the name of this department's *Department/Topic*, "Briefing" under *Type*, and ensure that *Start date* and *End date* encompass the date a document was presented to the JBC.

ISSUE: R3 COUNTY TRAILS REFRESH AND SUPPORT

This issue summarizes the Department's third prioritized request, R3 County Trails Refresh and Support. The Department request includes an increase of \$1,800,000 total funds, including \$1,776,267 General Fund and \$23,733 federal funds, for FY 2022-23 and ongoing.

SUMMARY

The request includes several changes to increase support for the Colorado Trails system and county information technology (IT) resources, including:

- Create a new line item for county IT support to separate county IT expenses from the current Colorado Trails line item.
- Increase support for county computers and general county IT support by \$1.8 million total funds.
- Correct the federal match from 55.0 percent to 35.0 percent for the maintenance and operations of the Colorado Trails system, resulting in an increase of \$606,267 General Fund offset by an equal decrease in federal funds.

RECOMMENDATION

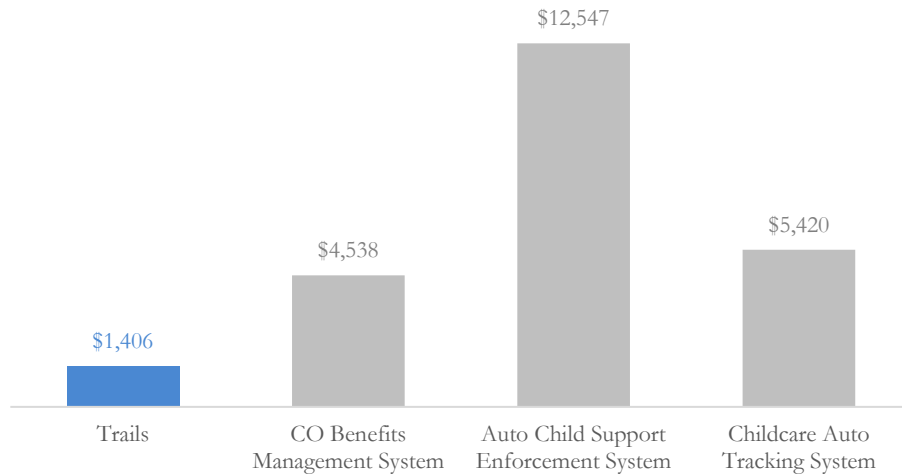
In consultation with JBC staff for Information Technology Projects and Joint Technology Committee (JTC) staff, staff recommends that the Committee refer this request to the Joint Technology Committee (JTC), pursuant to Joint Rule 45(b). Staff recommends that this request remain for consideration in the operating budget as submitted; however, staff requests a JTC review and recommendation as an IT-related operating request item. **JBC staff for Information Technology Projects will present this recommendation in a single document for Committee action on December 13, 2021.**

DISCUSSION

The Trails system is Colorado's child welfare system of record, housed in the Office of Children, Youth, and Families (OCYF). Trails is used by counties to track child abuse and neglect cases as well as services deployed to help families. Trails is used by over 5,400 individual users, including staff in the Divisions of Child Welfare and Youth Services, the Office of Early Childhood, the Administrative Review Division, the Office of the Child Protection Ombudsman, 22 judicial districts, and 64 individual county departments of human/social services. Those 5,400 users have over 70,000 unique contacts with children and families each month. Counties comprise half of the Trails system end users.

The request provides the number of users and operating appropriations for three other case management systems under the Department for comparison. Of the systems provided, Trails has the lowest operating appropriation per user as shown in the chart below.

The FY 2021-22 operating appropriation per user for the Trails system is lower than similar case management systems used by DHS.

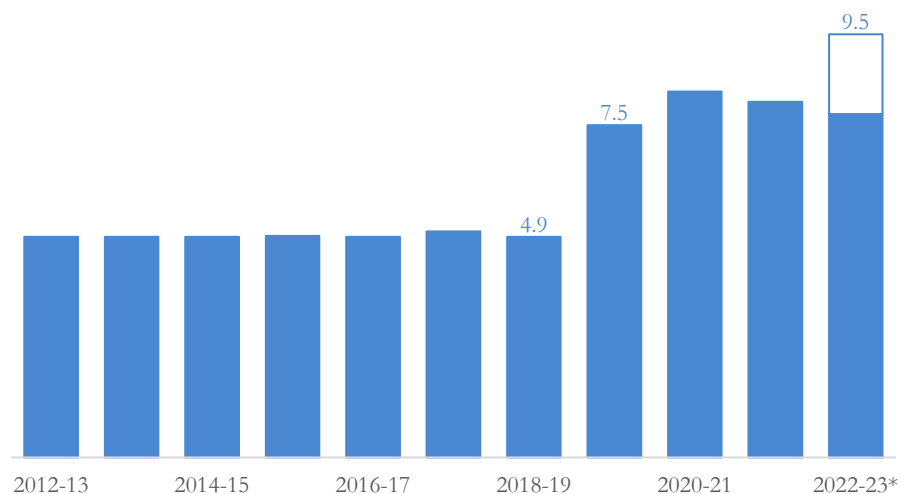


LINE ITEM STRUCTURE

While the Trails system is managed by OCYF, the line item is housed under the Office of Information Technology Services in the Long Bill. The request states that while the Colorado Trails line item base totals \$7.6 million, only \$1.7 million is used for ongoing Trails expenditures. Over 40.0 percent of the line item is used for the Department's master CenturyLink contract. An additional 16.0 percent is used for the purchase of county caseworker computers and support services.

In FY 2019-20, the Department requested and the Committee approved an increase of \$2.5 million total funds, including \$1.1 million General Fund and \$1.4 million federal funds, for Trails maintenance. This request followed three years of capital construction improvements for Trails modernization approved by the General Assembly for \$22.8 million total funds. The ten year total appropriations history for the Colorado Trails line item is provided below.

A FY 2019-20 budget action increased the [total appropriations for the Colorado Trails line item](#) by 50.6 percent (in millions).



Estimated expenditures for county computers in FY 2021-22 total \$1.3 million, \$300,000 over the budgeted amount. While additional staff have been provided to counties each year since 2015 as a result of the workload study conducted under S.B. 15-242 (New County Staffing), the request states that there were no accompanying ongoing funds for county computers or Trails. Over the last six years, legislation has added funding for 698 caseworkers.

FEDERAL DRAWDOWN

The request states that the FY 2019-20 decision item incorrectly calculated the federal drawdown. The decision item estimated a split of 45.0 percent General Fund and 55.0 percent federal funds, while the actual drawdown is limited to 35.0 percent. This was the result of a technical error and has resulted in approximately \$500,000 annually that is appropriated but cannot be drawn down.

REQUEST

The Department's request would create a new line item with \$1.8 million in General Fund and federal funds for county computers and IT support. The request would increase the resources available to the Colorado Trails system without increasing the overall appropriation to the line item by removing county IT expenses from the line item. The estimated FY 2021-22 expenditures for these line items are provided in the table below.

FY 2021-22 ESTIMATED COLORADO TRAILS LINE ITEM EXPENDITURES		
	EXPENDITURE	PROPOSED LINE ITEM
HP County computer leases	\$1,078,000	New County IT Support Line
IHFA CWEL Insight Delphix Engin for Oracle	164,837	New County IT Support Line
Insight HP Software - Carepack	136,368	New County IT Support Line
County IT Support Subtotal	\$1,379,205	
CenturyLink Infrastructure	\$3,117,296	Trails Operating
FY 19-20 R13 Colorado Trails maintenance	2,143,000	Trails Operating
FY 20-21 R2 Family First Prevention and Services Act	250,000	Trails Operating
Project Manager	167,130	Trails Operating
Miscellaneous	24,905	Trails Operating
Trails Operating Subtotal	\$5,702,331	

The request states that increased resources for Trails would allow for the development of new features, automated testing, and improve the IT support and development processes. The change request by proposed line item is shown in the table below.

REQUEST SUMMARY BY LINE ITEM				
LINE ITEM	FUND SOURCE	FY 21-22 BASE	FY 22-23 CHANGE REQUEST	FY 22-23 TOTAL
Trails	General Fund	\$4,412,470	\$606,267	\$4,933,252
	Federal Funds	3,319,586	(606,267)	2,656,367
	Total	\$7,732,056	\$0	\$7,589,619
County IT	General Fund	\$0	\$1,170,000	\$1,170,000
	Federal Funds	0	630,000	630,000
	Total	\$0	\$1,800,000	\$1,800,000
Overall	General Fund	\$4,412,470	\$1,776,267	\$6,188,737
	Federal Funds	3,319,586	23,733	3,343,319
	Total	\$7,732,056	\$1,800,000	\$9,532,056

RECOMMENDATION

Staff recommends that the Committee refer this request to the Joint Technology Committee (JTC), pursuant to Joint Rule 45(b). Staff recommends that this request remain for consideration in the operating budget as submitted; however, staff requests a JTC review and recommendation to assess the proposed costs for county IT resources and Trails operations. Since there have been multiple requests for increased funding related to Trails in recent years, staff additionally recommends potential JTC progress tracking or oversight as determined necessary by the JTC. **JBC staff for Information Technology Projects will present this recommendation in a single document for Committee action at a later date.**

punitive. Additionally, DCW has recently offered increased placement support due to feedback from county partners. This support requires an average of five county-facing meetings and three internal meetings weekly to understand high-acuity youth needs and explore solutions. Counties have also shared that they value the support provided by the (currently time limited) permanency specialist, including working with and supporting collaborative efforts between the Wendy's Wonderful Kids program staff and county staff as they seek permanency for youth as well as helping counties connect with appropriate staff across state lines for interstate adoptions

R3 COUNTY TRAILS REFRESH AND SUPPORT

40. [Sen. Rankin] A few years ago Trails was a poster child for a new "agile development" process. Please provide a review of the agile development process that was used to modernize Trails, and discuss the effectiveness of this approach. Was each phase completed on time and on budget? Were there quantifiable positive results?

In June 2020, OIT and CDHS engaged the Colorado Digital Service on a nine-month engagement with the Trails team to support the transition to agile and build high-performing teams that could iteratively provide value to users. The work with CDS supported several major changes to how the Trails team operates, including:

- Reallocation of existing resources to support onboarding a new Technical Owner (through CDS), Scrum Master, UX Leader, Project Manager, Release Manager, Quality Owner, and several developers;
- Halting parallel work on distant features to focus on the next iteration and shipping working software;
- Further empowering the Trails Product Owner within CDHS to make product prioritization decisions for the Trails product, including development of priorities for both the vendor and OIT;
- Enhancing collaboration between OIT, CDHS, and the vendor; and
- Supporting implementation of a new team structure to support a future state of "feature releases" that deliver iterative value to end users.

In January 2021, Trails officially pivoted to the use of three focused scrum teams, each with an individual Product Owner overseeing work. Each of these teams is composed of individuals who are fully dedicated to Trails, representing a major shift from the previous "shared services" model. This has allowed the team to build expertise and singularly focus technical talent on shipping the next release of software.

The final agile shift entailed two major changes in the team's operational framework. The first was moving from a "project" to a "product" approach. Years of focusing on the Trails Modernization project without priority given to underlying operations resulted in lopsided funding in which CGI was resourced to develop new code quickly, but OIT and CDHS were not resourced to support the underlying database. Moving to a "product" mindset allows

Trails to consider all components of the system that support the work of users, including functionality, but database stability, architecture, and security.

The second, related shift entailed focusing resources on the highest-value activities. Trails previously sought to “finish” Trails Modernization as quickly as possible. But Trails will never be “finished” in the sense that it will constantly need to be improved and updated, particularly as child welfare policy and practice continues to evolve. Rather than focusing on the idea of “finishing” the product via the project, the team pivoted to focus on sustaining a model of constant improvement. CDHS and OIT did that by focusing on creating highly effective teams that use resources to look across the product and maximize values to users, and that are positioned to continue to make improvements long after a vendor has rolled off.

The major shifts have led to a significant evolution in how the team ships code, and influenced several major releases over the past year-and-a-half:

- Release 6: Deployed on May 31, 2020, Release 6 used supplemental funding provided by the JTC to incorporate new functionality into Trails to support implementation of the Family First Prevention Services Act (“Family First”). Family First allows local child welfare agencies to use federal funding to prevent out-of-home placements and places new restrictions around accessing federal funds for congregate care facilities. Release 6 deployed needed functionality related to Family First implementation in Colorado.
- Plans of Safe Care: Deployed on December 20, 2020: This release also utilized supplemental funding provided by the JTC to bring Trails into compliance with The Comprehensive Addiction and Recovery Act (CARA) of 2016. Plans of Safe Care addresses the needs of infants who are identified as affected by substance abuse, experience withdrawal symptoms, or have fetal alcohol spectrum disorders (FASD). CARA stipulates that a Plan of Safe Care be completed for the infant and their family/caregiver. Plans of Safe Care went live in Trails on December 20, 2020, and all counties complete a Plan of Safe Care when the referral reason is Substance Exposed Newborn.
- The Oracle Upgrade: Both Trails Legacy and Modernized Trails use the same Oracle database. Prior to this upgrade, both systems sat on Oracle 10g, which was no longer supported and resulted in frequent system instability. Due to the risk of a long-term outage, CDHS and OIT made the decision to adjust the Product Roadmap to upgrade Oracle to 19c. Oracle 19c was successfully deployed in April 2021 in a major, multi-day release that significantly increased system stability and security and, for the first time ever, moved users from a daily database sync to a real-time reporting server. The tremendous undertaking of the Oracle upgrade resulted in an approximate year-long delay in Trails Modernization releases. This was a trade-off the team made to ensure that the underlying database would not falter and hinder a caseworker’s ability to access critical information to support kids and families.
- Release 7: In June 2021, the Trails Team deployed Release 7, which brought 50% of all users, including all Division of Youth Services users, into a single, modernized

system. While Release 7 entailed an enormous amount of code, it also had more testing coverage than any previous release.

- Since Release 7, the team has moved to smaller, agile releases every few weeks, resulting in an additional nine small releases to implement fixes and improve functionality, including the re-establishment of an interface between Trails and the judicial system.

DIVISION OF YOUTH SERVICES

REQUEST FOR INFORMATION 3 – YOUTH SERVICES INSTITUTIONAL PROGRAMS REPORT

41. *[Rep. Ransom]* Please describe what qualifies as an assault as reported under RFI 3. What is the Department doing to address this issue and decrease assaults within Youth Services?

The Division of Youth Services (DYS) categorizes assaults into three levels. The corresponding definitions are provided as follows:

- Level 1 Assault: Intentional act of aggression resulting in injury that requires outside medical attention (e.g.: stitches; broken bone; could not be addressed by first aid; not merely a visit to the medical provider). Note: Due to availability of medical staff at the time of the incident, outside medical attention may not necessarily be due to a serious injury, but rather as a precaution to rule out serious injury.
- Level 2 Assault: Intentional act of aggression resulting in injury that requires first aid medical attention (e.g.: sterile strips for cuts).
- Level 3 Assault: Intentional act of aggression resulting in injury that does not require medical attention (e.g.: bruises; scrapes; spit that makes contact with the eyes or skin).

The Division continues to experience an increase in the complexity of the youth population served. The Division is seeing a higher percentage of youth sentenced as an Aggravated Juvenile Offender, Violent Juvenile Offender, and a Repeat Offender. These are enhanced sentencing options within the statute. In addition, 40% of youth are committed on felony person crimes and 43% committed on violent crimes, which include murder, attempted murder, and aggravated robbery. The Division is also seeing an average age of 16.8 for committed youth and an average age of 16.1 for detained youth (at time of commitment and time of detainment, respectively). By the time youth parole, they are past the age of majority (18.2 years old on average), and 19.0 years old at DYS discharge, on average.



Colorado Trails

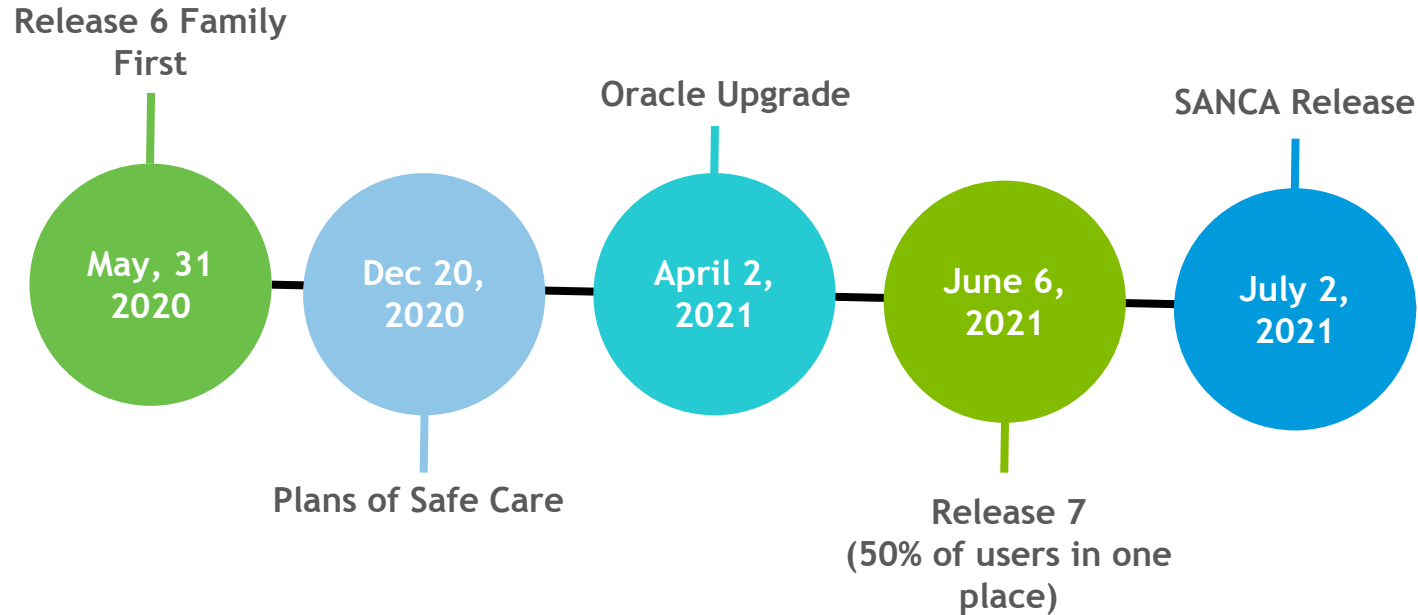
- Trails is an integrated case management system used by 5,400 users serving children, youth and families across Colorado.
- Users include workers in 64 county departments, 22 judicial districts, and the Division of Youth Services (DYS).
- Those 5,400 users in turn have over 70,000 unique contacts with children and families each month, from screening calls to the child abuse and neglect hotline to conducting safety assessments to connecting families with behavioral health services.

Shifting Our Framework to Agile

(Q40, pg. 46)

- **Moving from a “project” to a “product” mindset:** Moving to a “product” mindset allows Trails to consider all components of the system that support the work of users.
- **Focusing resources on the highest-value activities:** We are pivoting to focus on creating highly effective teams that use resources to maximize values to users, and that are positioned to continue to make improvements long after a vendor has rolled off.

Major Releases





R-03 County Trails Refresh and Support

Two components:

- Adjustment of the Trails Line Item Federal and General Fund split to reflect actual federal drawdown; and
- A request for \$1.8 million in a new “County IT Support” line item that will appropriately fund county child welfare technology needs outside of Trails, including computers for caseworkers.



The Future of Trails

Best practice in technology is to move away from incremental capital requests and instead secure an ongoing, reliable source of funding that allows teams to make constantly make improvements and better meet the changing needs of users. This decision item seeks to make that shift.